

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Edward William ADAMS ET AL.

Continuation of Serial No.: 09/841,237

Group Art Unit: Unassigned

Filing Date: Concurrently herewith

Examiner: Unassigned

Title: SURFACE-MODIFIED SEMICONDUCTIVE AND METALLIC NANOPARTICLES
HAVING ENHANCED DISPERSIBILITY IN AQUEOUS MEDIA

INFORMATION DISCLOSURE STATEMENT

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration.
Applicants respectfully request that the Examiner review and make of record the references
identified below.

The references identified below were disclosed and/or cited in parent application Serial
No. 09/841,237, filed April 23, 2001, and, as such, copies thereof are not included pursuant to
the provisions of 37 CFR § 1.98(d).

PTO-1449 form listing the references accompany this paper. Applicants would
appreciate the Examiner's initialing and returning the forms to indicate that the references have
been reviewed and made of record. The references are as follows:

U.S. PATENT DOCUMENTS		
Document No.	Issue Date / Publication Date	Patentee / Applicant
4,138,381	2/6/79	Chang et al.
4,504,618	3/12/85	Irvine et al.
4,715,986	12/87	Gruning et al.
5,110,505	5/5/92	Herron et al.
5,587,446	12/24/96	Frechet et al.
5,990,479	11/23/99	Weiss et al.
6,007,845	12/99	Domb et al.
6,048,616	4/11/00	Gallagher et al.
6,150,459	11/21/00	Mayes et al.
6,162,456	12/19/00	Dunbar et al.
6,319,426	11/01	Bawendi et al.

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Document No.	Issue Date / Publication Date	Patentee / Applicant
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6,326,144	12/01	Bawendi et al.
6,333,110	12/01	Barbera-Guillem
6,342,625	1/02	Kwetkat et al.
6,444,143	9/02	Bawendi et al.
6,468,808	10/02	Nie et al.

FOREIGN PATENT DOCUMENTS		
Document No.	Publication Date	Country
WO 99/50916	10/7/99	PCT
WO 00/17642	3/30/00	PCT
WO 00/17655	3/30/00	PCT
WO 00/17656	3/30/00	PCT
WO 00/29617	5/25/00	PCT

OTHER DOCUMENTS		
ANTONIETTI et al. (1997), "Amphiphilic Derivatives of Poly(Acrylic Acid) as Stabilizer in Emulsion Polymerisation," <i>Macromol. Rapid Commun.</i> <u>18</u> :295-302.		
BRUST et al. (1995), "Synthesis and Reactions of Functionalised Gold Nanoparticles," <i>J. Chem. Soc., Chem. Commun.</i> , pp. 1655-1656.		
CARROT et al. (1999), "Synthesis and Characterization of Nanoscopic Entities Based on Poly(Caprolactone)-Grafted Cadmium Sulfide Nanoparticles," <i>Chem. Mater.</i> <u>11</u> (12):3571-3577.		
EKIMOV et al. (1981), "Quantum Size Effect in Three-Dimensional Microscopic Semiconductor Crystals," <i>JETP Lett.</i> <u>34</u> (6):345-349.		
INGRAM et al. (1997), "Poly-Hetero- ω -Functionalized Alkanethiolate-Stabilized Gold Cluster Compounds," <i>J. Am. Chem. Soc.</i> <u>119</u> (39):9175-9178.		
JOHNSON et al. (1998), "Influence of a Terminal Functionality on the Physical Properties of Surfactant-Stabilized Gold Nanoparticles," <i>Langmuir</i> <u>14</u> (23):6639-6647.		
KUMAR et al. (2000), "Phase Transfer of Aqueous CdS Nanoparticles by Coordination with Octadecanethiol Molecules Present in Nonpolar Organic Solvents," <i>Langmuir</i> <u>16</u> (24):9299-9302.		
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LOCHHEAD et al. (1994), "An Investigation of the Mechanism by Which Hydrophobically Modified Hydrophilic Polymers Act as Primary Emulsifiers for Oil-in-Water Emulsions. 1. Poly(Acrylic Acids) and Hydroxyethyl Celluloses," <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> <u>88</u> :27-32.		
MA et al. (1998), "Polymer Micelles from Poly(Acrylic Acid)-Graft-Polystyrene," <i>Macromolecules</i> <u>31</u> (6):1773-1778.		
MOFFITT et al. (1998), "Spherical Assemblies of Semiconductor Nanoparticles in Water-Soluble Block Copolymer Aggregates," <i>Chem. Mater.</i> <u>10</u> (4):1021-1028.		
PONCET-LEGRAND et al. (1999), "Rheological Behaviour of Colloidal Dispersions of Hydrophobic Particles Stabilised in Water by Amphiphilic Polyelectrolytes," <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> <u>152</u> :251-261.		

OTHER DOCUMENTS
PREMACHANDRAN et al. (1997), "The Enzymatic Synthesis of Thiol-Containing Polymers to Prepare Polymer-CdS Nanocomposites," <i>Chem. Mater.</i> <u>9</u> (6):1342-1347.
SASTRY et al. (1998), "Facile Surface Modification of Colloidal Particles Using Bilayer Surfactant Assemblies: A New Strategy for Electrostatic Complexation in Langmuir-Blodgett Films," <i>Langmuir</i> <u>14</u> (20):5921-5928.
SCHALLER et al. (1999), "Synthesis and Properties of Hydrophobically Modified Water-Borne Polymers for Pigment Stabilization," <i>Progress in Organic Coatings</i> <u>35</u> :63-67.
SHEN et al. (1999), "Bilayer Surfactant Stabilized Magnetic Fluids: Synthesis and Interactions at Interfaces," <i>Langmuir</i> <u>15</u> (2):447-453.
SIDOROV et al. (1999), "Stabilization of Metal Nanoparticles in Aqueous Medium by Polyethyleneoxide-Polyethyleneimine Block Copolymers," <i>Journal of Colloid and Interface Science</i> <u>212</u> :197-211.
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TRIBET et al. (1997), "Stabilization of Hydrophobic Colloidal Dispersions in Water with Amphiphilic Polymers: Application to Integral Membrane Proteins," <i>Langmuir</i> <u>13</u> (21):5570-5576.
WANG et al. (1999), "Synthesis of Polycarbonate- <i>co</i> -Poly(<i>p</i> -Ethylphenol) and CdS Nanocomposites," <i>Journal of Applied Polymer Science</i> <u>72</u> :1851-1868.

This Information Disclosure Statement is not intended as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any of the above references constitutes prior art to the present application within the meaning of 35 USC § 102.

As this Information Disclosure Statement is being filed concurrently with the application, no fee is required.

Respectfully submitted,

By:



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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(use as many sheets as necessary)

Sheet 1 of 2 Attorney Docket Number 7725-0001.01

Complete if Known

Application Number	CON of Serial No. 09/841,237
Filing Date	Concurrently herewith
First Named Inventor	Edward William ADAMS et al.
Art Unit	Unassigned
Examiner Name	Unassigned

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AA	4,138,381	2/6/79	Chang et al.				
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OTHER DOCUMENTS — NONPATENT LITERATURE DOCUMENTS

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Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	BO	TRIBET et al. (1997), "Stabilization of Hydrophobic Colloidal Dispersions in Water with Amphiphilic Polymers: Application to Integral Membrane Proteins," <i>Langmuir</i> 13(21):5570-5576.	
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